WHAT IS CLAIMED IS:

1. A method comprising:

   a) attaching a luminescent label to an item; and

   b) attaching at least one luminescent calibration spot to the item.

2. The method of claim 1, wherein the label and the at least one calibration spot contain the same luminescent tag.

3. The method of claim 1, wherein the luminescent tag is fluorescent, phosphorescent, chemiluminescent, thermoluminescent or electroluminescent.

4. The method of claim 4, wherein the fluorescent tag is Alexa Fluor 647.

5. The method of claim 1, wherein the label is a bar code.

6. The method of claim 1, further comprising attaching one or more detector molecules to at least one sample spot on the item.

7. The method of claim 6, wherein different sample spots contain different detector molecules.

8. The method of claim 6, wherein the detector molecules are antibodies.

9. The method of claim 6, further comprising exposing the one or more detector molecules to a sample suspected of containing one or more target compounds.

10. The method of claim 1, further comprising attaching one or more target compounds to at least one sample spot on the item.

11. The method of claim 10, further comprising exposing the one or more target compounds to at least one detector molecule.

12. The method of claim 9 or claim 11, further comprising detecting the presence of at least one detector molecule:target compound complex.

13. The method of claim 12, wherein the at least one complex is tagged with the same luminescent tag as the label and the at least one calibration spot.

14. The method of claim 12, further comprising measuring the amount of light emitted from each calibration spot and each sample spot on the item.

15. The method of claim 14, further comprising determining the concentration of each target compound in the sample by comparing the light emitted from the sample spots and the calibration spots.

16. The method of claim 12, further comprising reading the label and identifying the item.

17. The method of claim 6, wherein the label, calibration spots and sample spots are attached to the item using an aldehyde cross-linking group.

18. The method of claim 17, wherein the substrates for the label, calibration spots and samples spots are placed on a platen before transfer to the item.

19. The method of claim 18, wherein the placement of substrates on the platen is controlled by a computer program.

20. An item prepared by the method of claim 1.

21. The item of claim 20, wherein the item is a glass slide.

22. The item of claim 21, wherein the item is a waveguide.